Ia Drew G-8 (1862-1875) 1875 AVI Kashmir AVI

winter. I hear that snow gets to be 3 feet deep and stays 4 or 5 months, and that there is a good chance of it falling at unseasonable times besides. This and a want of sun make it difficult for the crops to ripen. The sunshine is intercepted, not only by the clouds that the mountains attract, but also by the mountains themselves, which shut in the valley so closely. At Atholi I found that the average angular elevation of the visible horizon—that is, of the mountain-summits all round—was 18°. This want of sunshine affects the fruits, which do not well ripen, though some fruit-trees, especially walnut trees, are common. 132

Padar is one of the few places where I have met with the edible pine, *Pinus Gerardiana*; it is a large spreading tree with smooth bark; scattered individuals of it are found in the forest.* Wild carraway grows here, and is gathered in quantities to be carried to Jummoo for sale; the price in Padar is about eight-pence a pound. 137 223 418

The district we are now in is one of those where deodar forests occur in such positions as make it practicable to fell the trees for timber for use in the Panjáb. The necessary condition is that the slope on which the trees grow should be so near a large stream that without an extreme amount of labour the logs can be moved or slid, without loss of splintering, into the water, where they will float away down the stream. 313

Since the beginning of British rule in the Panjáb the demand for deodar timber has been great. No tree grows in any quantity in the Panjáb which will produce beams fit for a large building. Hence in former times to some extent, but still more since the British came there, the Panjáb has called on the Himalayas to supply it with timber; of all the Himalayan trees the deodar has been proved to be the best to resist the destructive insects, especially the white ants, which abound in the plains.

In the course of years the most favourably situated deodar forests in the Chinab Valley have been felled, and there now remain chiefly trees which either are of a less girth than can be

* The only other part where I have found this tree is near Dêlyte, in the Astor country, as mentioned in Chapter XVII.

1; Drew G-2 (1862-1872) 1875 AVI Kashmir AV/

• 3/3 lied to the best advantage, or are at such a distance from the stream-bank that the transport of the logs to the water is difficult, or, may be, would involve a prohibitory expense.

What was considered a good tree was one whose girth a few feet above the ground would be not under 9 feet, and whose height, for useful timber, was 60 or 70 feet; now in the forests we passed through from Kishtwár hither, the common girth was 5 or 6 feet only.

The plan is to fell the tree with axes, and cut it into logs of length varying, according to the use the timber is to be put to, from 10 feet to 20 or more, and to mark them in some distinctive way. The logs are then rolled or slid down the hill-side, or down some small ravine of regular slope, to the river.

This work is done in the spring and early summer—or if deferred till the autumn, it would be but in preparation for the next year—so that, on the rising of the river from the snow-melting, in May, June, July, and August, the logs may float away. In spite of some of them becoming stuck on the rocks or stranded on the shore, a good many will find their way through the mountain country to where the river debouches into the plains. What is done with them there we shall see when we come again to Akhnúr, on our march to Kashmír.

Although nearly all the easily-reached deodar-trees of large size have been cut down, there still remain, in the valleys of the Chinâb and its tributaries, forests that may be made available by longer slides; and there are besides, in places very accessible, numbers of trees which, though not of full size, will yet produce much useful timber.

/23 While in Pádar I heard accounts, and carefully verified them, of avalanches that have at various times occurred there. They come from the range on the south. The summits of this are at a level of 15,000 and 16,000 feet; from that height down to the Pádar Valley is a fall of 9000 or 10,000 feet in six miles. The valleys that drain great spaces of these snow-covered mountains narrow at last to a gorge, just before debouching into the main valley of Pádar. It is in years when unusually much snow has

1: Drew G-3 (1862-1872) 1875 AV1 Kashmir AV1

361 the surface, but there is no building or wall remaining; the bricks are often dug up and carried away to be used again. Near this spot is a place where the river was bridged by one of the invaders of India—I think it was Ahmad Shāh Durāni—who passed his army across the Chināb at this place.

363 The inhabitants of Akhnūr are much mixed; a portion of them are of the same various castes as about Jummoo; but there are a large number besides of Muhammadans, who bear the name of Kashmiri, and, doubtless, were originally of that nation. Unlike, however, Kashmiri settlers in other parts, who usually retain distinct their language, ways, and look, these have lost their native tongue and speak only Panjābi, and, in appearance and character, though very different from the Dogrās, yet they are not recognisably Kashmiri.

TIMBER-CATCHING AT AKHNUR.

● 313 Akhnūr has two or three circumstances that should make it flourish as a town. It is where three or four roads, some bearing much traffic, converge; it is just within reach of boats that navigate the Chināb, this position being made use of chiefly for building boats and sending them down for sale; thirdly, Akhnūr is where the timber from the mountains that floats down the river, is caught and stored.

This last business brings much employment and gain to the people. We saw in the last chapter how, far back in the mountains, the deodar trees were felled and cut up, and the logs rolled down to the edge to await the rising of the river. It is at this time of year, in May, that they begin to come down. No further care has been taken of them; they are left, in the first instance, to take their own chance of finding their way down that long distance of from 150 to 200 miles.

From Rātū, 20 miles above Akhnūr, to a place as far below it, this 40 miles is the space along which the logs are caught and brought to land. Nearly the whole population of the places along the river bank, people of almost every caste, occupy themselves in the work, for it comes at a time when farm-work is

1; Drew G-3 (1862-1872) 1875 AV1 Kashmir AV1

slack, one harvest having been got in and seed-time for the next not having come. The plan is to provide what is called a *sarná*, a goat-skin carefully taken off and carefully closed wherever an opening occurred; the end of one fore leg only is left open for inflating; the skin is blown out tight, and the end fastened up with a bit of string; to the hind legs are attached loops through which the man puts his bare legs, and the stiff inflated goat-skin comes up in front of his chest; then, jumping into the river, the man balances himself on the sarná, lying almost flat along it; by aid of his hands and a peculiar motion of his feet he can swim along at a fine rate, and fears not to trust himself to the waves and the rapids of the swollen river. Standing at a spot whence he knows the current will force him out to mid-channel, he waits till a log of timber comes opposite him, and, dashing in, he soon reaches it, and then, by the exertion both of force and skill, guides it to a sheltered nook where it may be landed and hauled up. The places convenient for this are known, and men are kept ready at each to receive the logs as they are caught, while a munshi is by to measure the timber, and give a note of its length and girth to the swimmer, who swims away with it in his turban to look out for another log. The notes representing the day's or the week's work he will bring at his leisure to the office at Akhnúr, and receive payment in proportion to the cubic contents of the timber he has brought in.

There are some thirty stations for this work within the space mentioned, including several in the branch channels below Akhnúr. A log that passes the upper ones will pretty surely be caught below; even at night, between the late summer evening and the early dawn, the timber can hardly get through the whole space before some early bird is down upon it to bring it in.

Some of the timber comes from as far away as the Chamba territory, above Pádar, where the Panjáb Forest Department fell it, having taken a lease of the Chamba Raja's forests. Some was felled by the Maharaja's Forest Department, of which for a few years I had the management. Some other belongs to contractors, to whom the right of felling has been sold. These different

1: Drew G-3 (1862-1872) 1875 AV1 Kashmir AV1

properties are recognized by the marks that are cut on the logs in the forest; each owner, having his agent at Akhnūr and other landing-places, manages to collect his own; the swimmers (*tārū* is the word they are called by) bring in all indiscriminately, and the payments made by any munshī will be adjusted afterwards.

In this way thousands of logs are caught every season; 20,000 logs belonging to the Maharaja's Forest Department, have been secured in one year; these would average 20 or 25 cubic feet of timber, and would have a value of more than 20,000*l*.

Many logs get fast in the middle course of the river, become stranded, or fixed between rocks, or otherwise entangled, and are left by the receding flood. For these, on the waters lessening in the autumn, men are sent up along the river bank, to disengage them and roll them to where they may again be started, or to a place whence they will be carried down by the next summer's flood.

The next stage in the timber-business is to concentrate the logs, especially to bring down to Akhnūr those that have been caught at the upper stations. This is done on the force of the current slightly moderating (as it will when a few cloudy days lessen the snow-melting), by forming small rafts of from two to four logs each, and guiding them down between the projecting cliffs of the narrow channel, and over the successive rapids that rock-ledges at intervals have made. It is a service of some danger. Two men guide the raft with bamboo poles, ready, with their sarnās, to take to the torrent if by chance the raft should be forced against the rock. When this happens the logs will be separated, and if the men have the good fortune to escape, they will again make to them to bring them in separately, and claim the wages which for this, too, are fixed as by measurement. Great nerve and [illegible]ck are often shown in the management of these rafts, and, dangerous though the work is, accidents are not common. Collected at Akhnūr, the timber is either sold there or made up into the larger rafts—of 50 or 60 logs—of which the lower course of the river will allow the passage, and floated down some 50 miles, to Wazīrābād, on the Grand Trunk Road, whence it will be distributed over the Panjāb.

1: Drew G-3 (1862-1872) 1875 AV1 Kashmir AV1

The felled timber used to be very nearly all deodar, that being the wood that stands best against the destructive white ant; latterly, I believe, they have been trying *Pinus excelsa* for sleepers for the railway, and some number of that tree has been cut for the purpose; young trees of *Pinus longifolia* have always been sent down for the roofing of the small houses of the natives. But beside what has been felled, a considerable, in some years a wonderful, amount of waifs arrive by the river, of trees that have fallen and been carried down by snow-slips, or in any way whatever have found their way to the river side. This is called *ror*; it belongs by old custom to the government of the territory in which it may first be caught and brought to bank. The Maharaja gets the lion's share of this on the Chīnāb, but a little may pass through to the British territory. Felled timber that has through carelessness remained unmarked goes the same way. A few trees of pencil cedar from forests high up the mountains find their way down; they are generally ten or twenty feet long and four or five feet girth at bottom, quickly tapering.

Besides the regular gradual rise of the river by the snow melting, induced by a bright sun shining on the high mountains, there are apt to come, in the rainy season, more sudden floods, which may bring the waters up to a much higher level than they reach by the other mode of rising. That first kind of rise is called "charhā"; the flood is called "har." In the *charhā* the water is cold, coming fresh from the snows, and its colour is milky from the glacier-mud. The *har* is brought on by rain; two or three days' continuous rain over any large area of the hills is enough to cause such a flood. According to the area it originates in—to the character of the rocks occupying that area—is the colour of the water black, brown, or red. It comes suddenly and as quickly subsides, lasting in general but a few hours.

While the steady rise and continuance of the waters in the *charhā* is most favourable to timber-catching, the *har* may destroy all the work that has been done. The river will sometimes rise to the timber-heaps in the store-places, and float off

1: Drew G-8 (1862-1872) 1875 AV1 Kashmir AV1

313 and carry away numbers of logs. During the force of the flood
133* no swimmer can ride his sarnā; none can venture on the water; the river for a time asserts itself and is master, and no one can interfere with his doings while he carries off the carefully-stored timber, the accumulation of much human labour, and scatters it here and there on the banks, and leaves it on the shoals of the lower part of his course.

AKHNUR TO RAJAORI: FIVE MARCHES.

361 Now we must leave the gay scene of the swift river, dotted
133* over with the swimmers on their strange-looking steeds, riding in pursuit of the logs—all which we can see beautifully from the windows of the Bāradarī on the summit of the fort, and face the burning sun for another march. Five hot marches await us over ground of one general character, over the rough country of the Outer Hills, what we have already in the account of their physical characters in some measure described. We will therefore treat of these together, and not separate each day's doings, though a list of the marches will be useful: they are numbered from Jummoo:

	Miles.		Miles.
2. Akhnūr to Chaukī Chorā ..	19½	5. Dharmsāla to Syālsūī	9
3. Chaukī Chorā to Thandāpānī,	13	6. Syālsūī to Rājaorī	14
4. Thandāpānī to Dharmsāla ..	9½		

The road leads straight away from the river north-westward and for four miles is still in the plain, but it is a plain gradually rising; then we reach the outermost line of hills and enter them by a valley, going up the boulder-covered stream-bed; the cliffs and hills on each side rise higher, and make the valley narrower, as we go on. The hills are covered with a forest or brushwood, which harbours undisturbed many a peacock, whose scream sounds strange in conjunction with the voice of the cuckoo, who also at this time here makes himself heard. After a bit we rise to the level of the broken plateau that occupies the space between the outermost ridge and the ridge of Kālithār, and here is the stage called Chaukī Chorā, a scattered village, with little portions

2: Gervis T-3 (no date) 1954 AV1 Kashmir AV1
Gujars

233 [342] we came upon another band of them camped in a nullah near a stream on the wayside. Their tents were of rags stitched together and stretched on the wooden framework. They were cooking, the great iron pots standing over the fires which the little long-skirted child girls were feeding with the sticks they ran round to gather. The men were in a bunch round a pipe some distance off; the boys were tormenting a goat; they all looked filthy, their skins greasy, their clothes begrimed, yet some rather pretty girls of the party were even then washing something by the river, maybe it was goat hair they would sell raw or make up into something to be bartered in a shop for some commodity they needed on the way: from the milk of their herds they make ghee. They are ignorant, simple people.

491 361 [313] From Ramban to Batote is eighteen miles, and the road goes down to two thousand two hundred feet above sea level. It twists and turns, and during the run passes over a long suspension bridge which crosses between two great high mountain walls of red rock, the river rushing a hundred feet below, glistening and clear, and carrying down with it hundreds of great logs which have been cut higher up, marked so that the owners are known, and sent down by this cheap form of transport, the only expense being the pay of the men who are posted at those parts of the river which are known to choke up. Further along the road we came on parked lorries; these were at places where the flow of the river slowed and the logs became beached on the sandbanks. It was here that they were being lifted up and carried by coolies to the road transport, to continue their journey to the Punjab.

Looking across at the tree-covered slopes on the other side we could pick out an old unused road, and this we did many times later on, maybe it was the original road up to the pass and made in the days before suspension bridges could be built to span the torrent; so that those who then travelled had to wait until they came upon a place where the waters were quiet enough for a ferry or shallow enough to ford.

341 Batote is four thousand five hundred feet high, and from that village to Kud is a distance of twelve miles, during which the road goes over the Patnu Pass; it is one long, climbing series of twists. The beauties were such that I found it almost impos-

3: Imperial Gazetteer G-3 (1889-95) 1909 AV1 Kashmir AV1
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surprising. The industry is no longer confined to Kothar, but has spread all over the valley, and its further progress depends on the maintenance and extension of mulberry trees.

Ten filatures have been built, containing 1,800 basins for reeling cocoons, fitted with Italian machinery and giving employment to over 5,000 people in Srīnagar. The quality of the silk steadily improves, and it now commands a price very slightly below Italian silk. In 1897 only 406 ounces of eggs were imported, while in 1906 the import was 27,500 ounces. The number of *zamīndārs* taking seed has risen in the same period from 150 to 14,000, and the weight of cocoons reared from 375 to 21,400 maunds, while the payments to the rearers increased from Rs. 4,300 to Rs. 3,28,500, all the eggs and mulberry leaf being given free of cost. The total production in 1905–6 was 109,072 pounds of raw silk, and 43,349 pounds of silk waste. The profits since 1897, when the industry was started on a scientific basis, have been 15·4 lakhs, of which 4·6 lakhs were made in 1905–6. The total capital outlay has been Rs. 7,25,000, while the working expenses are about 7 lakhs a year.

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Forests.

The forests of the State are extensive and valuable, and their conservation is of great importance in the interests of the country drained and irrigated by the rivers passing through them. Including the Bhadarwāh *jāgīr*, which contains the finest quality of timber, the area is reported as 2,637 square miles of all kinds, comprising *deodār*, firs, pines, and broad-leaved species. This may be divided into the drainage areas of the Jhelum (1,718 square miles), Chenāb (806), and Rāvi (113). The *deodār*, which is the most valuable species, extends between 5,000 and 9,000 feet above sea-level, and is at its best between 6,000 and 9,000 feet. The blue pine appears at about 6,000 feet, and extends to nearly 10,000 feet, the finest specimens being found mixed with *deodār*. A zone between 8,000 to 11,000 feet is occupied by silver fir, which occurs pure in dense forests at the lower elevation and is mixed at greater heights, first with maple and then with birch. Forest vegetation above 11,000 feet consists of dwarf rhododendron and juniper.

Deodār.

The total area under *deodār* is about 543 square miles. In the Kashmīr Valley it is found principally, indeed almost entirely, in the north-west—that is, the district known as Kāmrāj—and the largest areas are in the Utr Machipur *tahsīl*. In Udhampur district, which includes the Kishtwār and Padar *tahsīls*, there are 198 square miles of *deodār*-bearing tracts situated on the Chenāb and its affluents. These forests are of

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a very good class, containing many fine trees of 12 to 18 feet girth, and the reproduction is mostly good. In the Muzaffarābād district, which contains the valley of the Kishangangā river and that of the Jhelum from Kohāla nearly up to Bāramūla, there are estimated to be 158 square miles of *deodār* forest. Rāmnagar, formerly the *jāgir* of the late Sir Rājā Rām Singh, K.C.B., contains a very small proportion of *deodār* forest, and it has been generally overworked. Finally, the Jasrota district, situated on the right bank of the Rāvi river, contains a small area of *deodār* in the Basoli *tahsīl*. These forests also were formerly held in *jāgīr* and were practically denuded of all mature trees, so that no fellings can take place for many years to come.

Pines and firs.

Pines and firs occupy about 1,100 square miles, and *chīl* (*Pinus longifolia*) 473 square miles. The last is found in lower altitudes below the blue pine and *deodār*, existing in practically pure forests in Muzaffarābād, Bhimbar, Rāmnagar, Udhampur, Jammu, and Jasrota. The Kashmīr Valley, having a lowest elevation of 5,200 feet above sea-level, contains no *chīl*. The Bhimbar Forest division (and district) has the greatest area under *chīl* (220 square miles), situated principally in the Kotli and Naoshera *tahsīls*. Some of these forests are of very fine quality, and will in time give a large number of mature trees for sale, but at present they are not being worked. Next to this comes the Rāmnagar division, which includes part of the Jammu district; but these forests are badly stocked and have been overfelled, and will take many years before they can be of much value as a commercial asset. The Chenāb division, which also comprises part of the Jammu district, has some forest of poor quality. In Udhampur most of the forest is too far from a market to be profitable. When good cart-roads or light railways have been made, it may be possible to utilize the Bhimbar and Jammu *chīl* forests for the distillation of turpentine, but at present the cost of carriage is prohibitive.

Next come the fir forests. Owing to their altitude, it would naturally cost more to extract their timber; and the selling price of fir being very low, these forests are unworkable except in the Kashmīr Valley, where the timber is used as firewood mainly for the silk factory at Srīnagar. Perhaps in the future, when artificial preservation of the timber in the form of sleepers, &c., by creosoting, has been resorted to, these forests will prove of great value.

Miscellaneous.

Lastly, there are the forests of broad-leaved species, and these are at present only of value in the Kashmīr Valley for the supply of firewood to the city of Srīnagar. Bamboos

3: Imperial Gazetteer G-3 (1889-95) 1909 AV1 Kashmir AV1

are found mainly in the Jasrota district on the Rāvi river, where there are about 3,200 acres of mixed forest which contain the so-called male kind (*Dendrocalamus strictus*). They are saleable at a good price, but are at present subject to much injury from the Gūjar tribes, who hack them for fodder for their cattle. The grass areas are mostly blanks inside *deodār* and other forests, which are used as grazing-grounds by the villagers.

Production.

In the Kashmīr Valley the forests supply timber and fire-wood for local use and also logs for export. During the past few years *deodār* sleepers have been exported down the Jhelum river, the sleepers paying very well, though the quality is not so good as in other districts. Little *deodār* is used in Srīnagar in comparison with blue pine, which, being both very durable and cheaper than *deodār*, is the favourite building material. From Udhampur both logs and sleepers of *deodār* are exported down the Chenāb to Wazīrābād. The trees being of better quality, higher prices are obtained for the produce than for that of Kashmīr. From Muzaffarābād timber in the log and sawn into sleepers is exported down the Jhelum. The sleepers are entirely of *deodār*, but logs of both blue and long-leaved pine are also sent down in small quantities. These three districts, Kāmrāj, Udhampur, and Muzaffarābād, give the greater part of the forest revenue, which amounted to 9·8 lakhs in 1904–5, while the expenditure was 3 lakhs.

Improvements.

Up to the present, owing to the weakness of the forest establishment, little has been done in the matter of artificial reproduction of *deodār*, nor is it necessary. Owing to the protective measures already taken, the three important species, *deodār*, blue pine, and the long-leaved pine, are rapidly filling up blanks in the forests. The reproduction of *deodār* by natural means, whether in Kashmīr, Udhampur, or any other district, is remarkable, nor is the blue pine at all backward, while in the Kotli and Naoshera *tahsīls* of Bhimbar district the restocking of blanks inside and outside the forests is all that can be desired. Since the last great seed year of 1897 myriads of self-sown *chīl* have appeared and are now fine healthy plants, ranging from 6 to 9 inches in height, so that unless destructive fires occur there is little or nothing to be done in the matter of restocking denuded areas or blanks. So far fire protection has been unnecessary and hardly anything has been expended on it, and the only parts protected are the Kotli *tahsīl* forests. The greatest need at present is protection from the damage done by graziers.

3: Imperial Gazetteer G-3 (1889-95) 1909 AV1 Kashmir AV1

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About three-quarters of the State forests have been demarcated; but before really scientific forestry can be introduced, it will be necessary that a regular survey should be made and a settlement of the forests effected, and the great task of drawing up working-plans for future guidance must be undertaken.

Before 1891 there was no proper management of the forests, and much damage was done by allowing traders to cut in the forests on payment of royalty without any supervision, while villagers also did immense injury to the forests in various ways, the State making little or no revenue. In 1891 the first attempts were made to put matters on a proper basis, with the result that, while most forms of forest injury except grazing have ceased, the profits have increased largely. Thus the net revenue in 1904–5 was 6 lakhs, while before 1891 it hardly exceeded 2 lakhs. The Forest department is under the control of a European Conservator, assisted by a staff of subordinates.

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Mines and minerals.

Some authorities have held that there is not much hope of mineral wealth in the State; and among the reasons given is the fact that, as a rule, if valuable minerals exist, the natives of the country know of their existence. The Kashmīris, however, have excellent reasons for reticence on the subject of minerals, and the find of valuable sapphires in Padar in 1882, and the more recent discovery of coal at Ladda and Anji in the Udhampur district of Jammu territory, give hopes for the future. Vast fields have been found, in two sections of which it is estimated that there are 11 million tons of workable coal. The coal is extremely friable, dirty, and dusty. Some of it cokes strongly if subjected to great heat. It is held by competent authorities that the washed and briquetted coal of these fields will have a value equal to, if not greater than, Bengal coal. Exploration for minerals has not yet been attempted on sound or business-like lines. Excellent iron has been obtained at Sof in the south of Kashmīr; good limestone is available in large quantities; gypsum is abundant; and a recent discovery of gold has been made at Gulmarg, the chief summer resort of European visitors to Kashmīr.

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Arts and manufactures.

The industries connected with sericulture, oil-pressing, and the manufacture of wine and brandy have already been mentioned, but the State is still more celebrated for its arts. The most important of these is described in the article on SRĪNAGAR, but other places also possess considerable reputation for various classes. Wood-carving is practised

CHAPTER IV.—MODERN JAMMU & KASHMIR—1925-43.

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With the accession in September 1925 of His Highness Raj Rajeshwar Maharajadhiraj Shri Maharaja Hari Singhji Bahadur, Inder Mahinder, Sipar-i-Saltanat-i-Inglishia to the throne, a new era in the history of the State begins. His Highness is the great-grandson of Maharaja Gulab Singhji and son of the late General Raja Sir Amar Singhji, younger brother of the late Maharaja. Born in 1895, he received education under a number of qualified European and Indian instructors. In 1908, he joined the Mayo College, Ajmer. After completing the full course of studies there, he received training in the Imperial Cadet Corps, Dehra Dun. His late Highness appointed him Commander-in-Chief of State forces in 1915, before he had attained the age of twenty. He took an active part in the training and equipping of the units despatched for service in the Great War and in sending reinforcements to keep them up to the sanctioned war strength. In 1922, he was appointed Senior Member of the then State Council, and a number of reforms were initiated by him in this capacity.

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On the occasion of the *Rajtilak* ceremony, which was performed at Jammu in February 1926, in the presence of distinguished guests including several Ruling Princes, His Highness announced a number of boons. One of [313] the boons conferred on the land-holders the right to cut down and utilize all royal coniferous trees on areas assessed to land revenue; another extended from 3 months to 12 months in the year the right of the villagers to remove dead and fallen timber; and a third bestowed certain rights on village communities with regard to the land of land-holders dying without issue. The most important of the boons was the bestowal of *khalsa* land on village communities which had no *shamlat* (village commons) up to cent. per cent. of their holdings. His Highness also sanctioned on the occasion the extension 657 of technical education to certain localities in both the provinces; the opening of more schools and hospitals; the provision of a special allotment every year for the supply of

426 decrees by civil court. About 4,000 co-operative credit societies with a working capital of about Re. 1 crore [646] provide facilities for credit to agriculturists. The Praja 423 Sabha has a good record of progressive laws passed ever since its inception.[1] The Right of Prior Purchase Act has imposed restrictions on the alienation of agricultural lands, and recognized the right of pre-emption among agriculturists in respect of such land. The Land Alienation Act has further protected the interests of the agriculturists, and stopped transfer of agricultural land to non-agriculturists. 426 The agricultural classes have been defined. The Aid to the Agriculturists and Land Improvement Act provides for grants of loans for improvement of land and relief of distress and the repayment of these loans by easy instalments. In special circumstances under this Act, the payment of particular instalments of a loan may be suspended 651 and even free aid may be granted. The *Kahcharai* Act removed inequalities in the incidence of the *kahcharai* tax, and granted exemption to owners of livestock in respect of particular animals of a given age. Before the enactment of this measure, relief had been granted to owners of livestock by executive action in a number of ways. The *nambardari* cess formerly realized on 423 nomadic animals was remitted. Proprietary rights have been conferred on the *assamis* in Kashmir Province and in the Frontier districts, as well as on occupancy tenants in Jammu Province. But the one concession which has substantially added to the resources of village communities throughout the State is the *Rajtilak* boon already mentioned regarding grant of *khalsa* land to the *samindars* concerned up to cent. per cent. of their holdings. Several *ailans* have been issued to ensure that the boon is properly ● 313 implemented. Reference has also been made to the extension of rights of the inhabitants of villages in regard to products of forests bordering on these villages. Recently His Highness' Government have further extended these rights on the recommendation of the Forest Enquiry Committee. Millions of cubic feet of timber and fire-wood are every year removed by *samindars* from the forests free of charge. Forest products are also sold to *samindars* at concession rates. Forest industries [443] and rearing of cocoons provide employment to tens of thousands in the villages.

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[1] [In 1934 -- Analyst]

and wool growing industry in the State. For purposes of research work, the Government have granted subsidy to the Farm.

Forests which cover about one-eighth of the total area of the State, and Forest industries provide a large field of employment for skilled and unskilled workers, besides yielding a large revenue to the Government. In recent years, the Forest Department has shown particularly good results. The net revenue of the Department for 1942-43 was Rs. 63.46 lakhs, which gives it precedence over other parts of India. The demand for timber grown in the State has increased considerably and owing to war conditions it has brought good prices. Cultivation of pyrethrum has made good progress. The Rosin and Turpentine Factory at Miransahib has done particularly well. The factory has led to the establishment of a number of minor private-owned industries and contributed to the development of Miransahib into what promises to be a new industrial town. The Half-wrought Factory at Baramulla received orders exceeding Rs. 10 lakhs for 1942-43. The feasibility of establishing a newsprint paper industry in the State was investigated by Tata Sons Ltd. with whom the Government have entered into an agreement for a comprehensive investigation of industrial possibilities in the State. But owing to the impracticability of importing heavy machinery in the present conditions, the proposition has to wait. A Drug Research Laboratory has been established under the expert guidance of Sir Ram Nath Chopra, its Director, and it is expected that within a few months it will be in a position to meet a part of the requirements of medical institutions in the State. Another noteworthy industry is Kashmir Willows, which besides manufacturing cricket bats has taken in hand the production of other wooden articles of great utility.

The establishment of a sugar mill at Miransahib near Jammu, is in hand and the manufacturing operations are expected to start early. The Shri Karan Singh Woollen Mills and the Indianite Factory which are not State-owned, but in which the Government have a substantial interest, have been kept busy executing orders received from outside the State. Well established cottage industries producing woollen fabrics, like *pattoos*, tweeds, blankets, shawls, *namdas*, *gabbas*, papier-mache and

245 654 *Silviculture.*—Great progress was made during this decade in silviculture. The establishment of a specialist Working Plan Circle enabled all the valuable commercial forests to be brought under modern methods of management, thus enabling the forests to be fully utilized without impairing their future productivity. Silvicultural research was undertaken for the first time and a special Research Division was formed.

[313] [314] *Commercial Development.*—Considerable progress has been shown in developing the commercial side of the department's activities. The out-turn of timber rose from 11 millions c.ft. to nearly 29 millions. The markets for minor products were developed and extended. The production of crude resin rose from about 4,000 maunds to 55,000 maunds greatly adding to the prosperity of the people in parts of Jammu Province where resin tapping has now become a well established village industry. Kashmir Artemisia has been brought under commercial working and now contributes considerably to the world's supply of Santonin.

General.—The expansion of the Forest Department's activities have very largely benefitted the people of the State. Not only has the larger income produced by the department enabled the Government to spend more money on social services such as education and medicine, but the increasing out-turn of produce has provided a great deal of work for the inhabitants many of whom now rely on forest works to enable them to pay their land revenues.

241 242 **28. Agriculture.**—A glance at Imperial Table X (Occupation), will show that by far the major portion of the inhabitants of the State depend on agriculture for their livelihood. The prosperity of trade and transport is also indissolubly linked with the bright prospects of agriculture for if the purchasing power of the masses goes low on any account a season of depression sets in the trading section of the community. The activities of the Agriculture Department in promoting the interests of farmers by introduction of better varieties of seed, more scientific instruments, better manures and last but not least by awakening a new interest in agriculture by overcoming the apathy of ages are particularly relevant to the Census Report. Any invention or discovery which can double the yield of crops in this country is bound to multiply to the same extent the mouths that feed on it. The activities of the Agriculture Department of the State are, however, unfortunately concentrated in the Kashmir valley only, and the province of Jammu has not derived any material advantage from its existence so far. The extension of the department's activities to that province on a larger scale is apparently necessary.

In the Kashmir valley the Agriculture Department maintains two experimental farms where several varieties of agriculture and vegetable seeds imported from India and foreign countries like America, England, Russia, Italy are tried and recommended for adoption to cultivators after the experiments have met with success on the Government farms. In some cases acclimatised seeds have multiplied the yield by 50 per cent. About 169 varieties of foreign vegetables are also grown on the farm. The seed is distributed twice a year in the valley and demands from other places are met by post.

241 177 *Implements.*—Several implements such as Meston ploughs, Horse Hoe, Bar Harrow, Chaff Cutter, Maize Huller and Sheller, Automatic Seed Drill have been introduced and though a few only of the zamindars who are enterprising enough have come forward to purchase them and try their utility on their farms an innovation has been started which might prove of considerable value in the future.

543 *Shows.*—Agricultural shows used to be held on the occasions of seed distribution and have now come to form a part of the Industrial Exhibition held annually in Srinagar. The Agriculture Department occupies a separate section where several varieties of different agricultural and horticultural products are exhibited besides the implements and provide a source of valuable information and instruction to the people. In 1979 an agricultural show was held at Jammu

6:Spate N-4 (no date)1954 AWI India
Kashmir AVI

241 seasonal immigration of hillmen. Wheat, barley, and rape are grown as rabi, maize and bajra as kharif. Higher up, in wider, better-watered valleys, bajra gives way completely to maize. Irrigation is difficult here also, as streams are incised, but it is not so necessary as in the lower valleys.

135 The unexploited mineral resources of the region are important. In Riasi Dt the Nummulitics contain three or four small fields with seams of anthracite (carbon 60–82%) up to 20 ft thick; farther W the coal is very friable and the thin seams too disturbed to be workable. The pisolitic limonites and ironstone of the same area and formation were exploited by indigenous methods in the past, and in view of the general mineral poverty of Pakistan might have some importance should she secure title to the area. The basal Eocene beds are fossil laterites, an old land-surface on the Permo-Carboniferous, and contain patches of pure bauxite forming a large reserve of aluminium ore.[1]

161 The region is fairly well peopled: densities range from 327 in Jammu and
563 238 in Mirpur to 144–174 in Riasi and Kathua, which contain definitely mountainous areas. All these showed decreases 1931–41, by as much as 15% in Jammu. The SE is strongly Hindu, 60–70% and locally over 80%, and should partition take place Jammu, Kathua, and Udhampur would be indisputably *Indian*: this is the home of the Dogras, the dominant minority in the state. Jammu (50,379) was the original base of the ruling house, whence the official title of the state is 'Jammu and Kashmir'; it is still the winter capital and the terminus of the only railway, a short line from Sialkot. To the W Punch is over 90% Muslim, a feudatory generally on bad terms with its Kashmiri overlord.

433 The whole region is of less significance in itself than in relation to W
●[313] Punjab. The SE might well be detached, but the rest normally plays a very important part in the economy of W Pakistan. Its forests are the main
[371] supply for a country desperately short of timber,[2] while Riasi might at least mitigate the mineral deficiency. In addition the importance to the W Punjab of the Mangla headworks and of the hydro-electric potential can hardly be over-estimated.

133 Finally we may note the essentially similar, though rather higher, country across the Jhelum, which forms much of Rawalpindi and Hazara
274 (NWFP). Murree, a hill station at the usual 6500–7500 ft, was chiefly noted for brewing; the high barley acreage of the region may have been significant.

The Pir Panjal

133 The Pir Panjal is in a sense a bifurcation from the main Himalaya farther E. Structurally and lithologically it is most complex; thrusting is important

[1] D. N. Wadia, *Geology of India* (1939), 339, 348, 431–2.

[2] The *Indian* counter-argument that the main customer was the railway system, three-quarters of which went to *India* on Partition, is transparent enough.